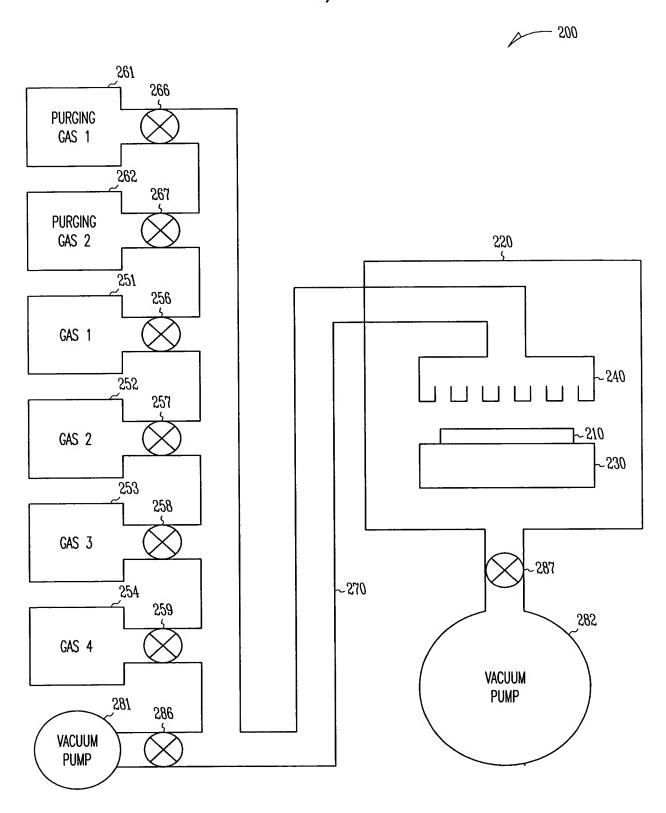
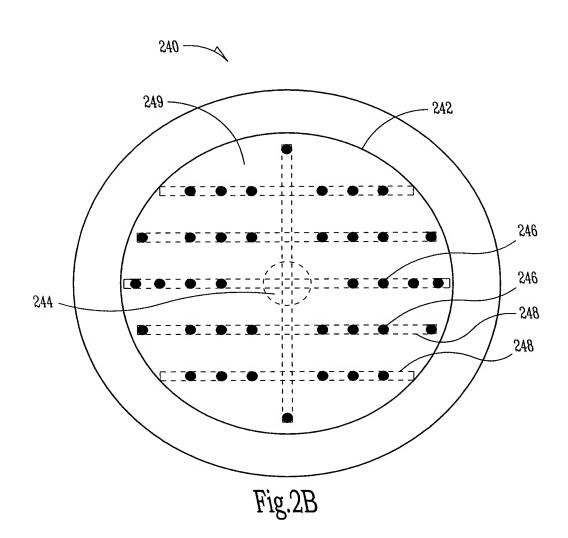
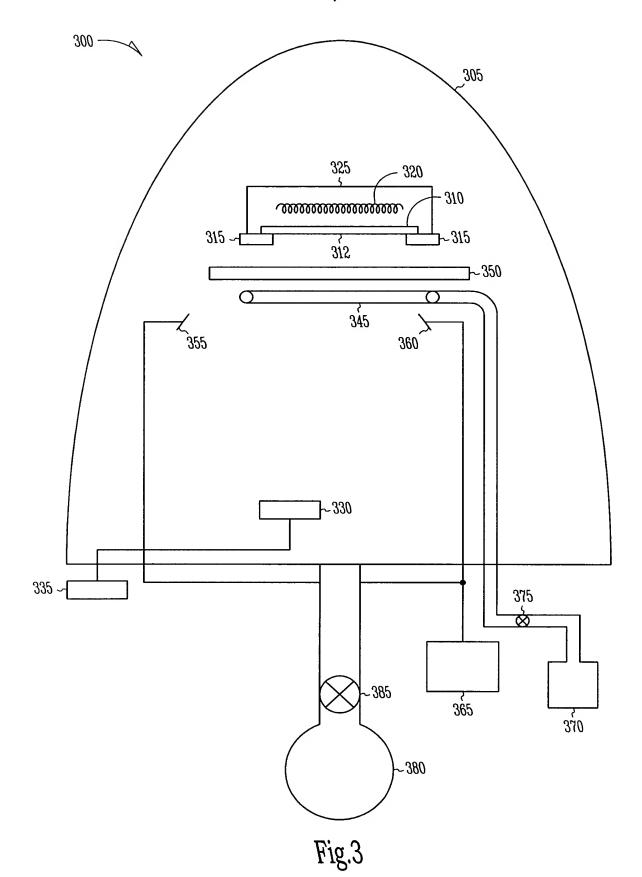


Fig.1



AS.gi7





TITLE: LANTHANIDE OXIDE / HAFNIUM OXIDE DIELECTRIC LAYERS

INVENTORS NAME: Kie Y. Ahn et al. DOCKET NO.: 1303.101US1

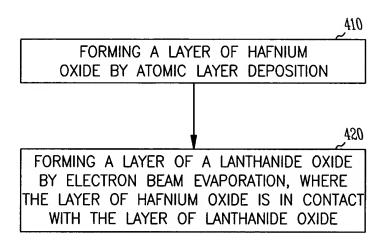


Fig.4

TITLE: LANTHANIDE OXIDE / HAFNIUM OXIDE DIELECTRIC LAYERS INVENTORS NAME: Kie Y. Ahn et al.

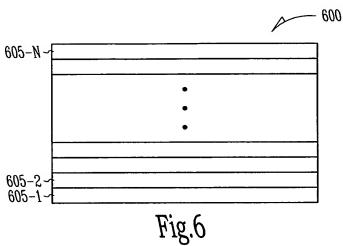
DOCKET NO.: 1303.101US1 6/8 505 ~ PREPARE SUBSTRATE 510 ~ PULSE A HAFNIUM-CONTAINING PRECURSOR 515 ~ PULSE FIRST PURGING GAS PULSE A FIRST OXYGEN-CONTAINING PRECURSOR 520 ~ 525 ~ PULSE SECOND PURGING GAS 530 HAS DESIRED NUMBER NO OF CYCLES BEEN PERFORMED? YES 535 HAS DESIRED NUMBER YES OF LAYERS OF A LANTHANIDE OXIDE BEEN PERFORMED? NO FORM A LAYER OF A LANTHANIDE OXIDE 540 -BY ELECTRON BEAM EVAPORATION 545 HAS DESIRED NUMBER NO OF LAYERS OF HAFNIUM OXIDE **BEEN PERFORMED?** YES 550 HAS DESIRED NUMBER NO OF LAYERS OF A LANTHANIDE OXIDE BEEN PERFORMED? YES

Fig.5

COMPLETE DEVICE PROCESSING

555 ~

7/8



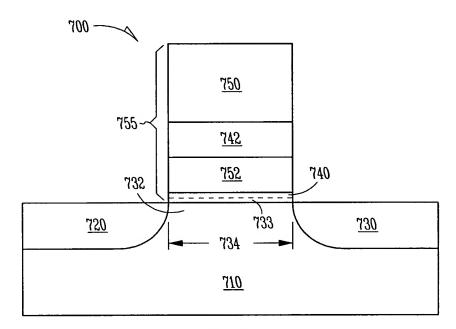
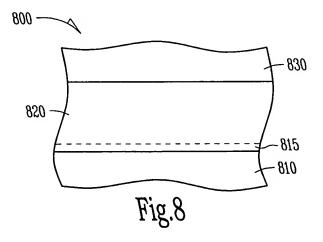
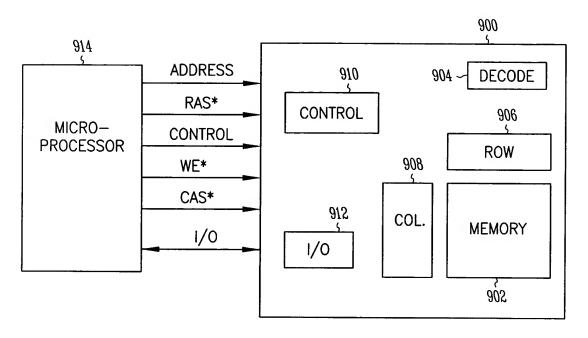


Fig.7





Pig.9

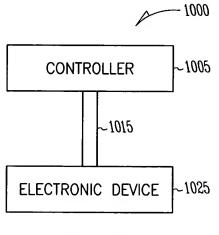


Fig.10